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Attorney Docket No. 0448D

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number

6,822,144 B1

Issued

November 9, 2004

Certificate
DEC 2 0 2004

Name of Patentee

Pioneer Hi-Bred International, Inc.

of Correction

Title of Invention

Methods for Agrobacterium-Mediated Transformation

Attention Certificate of Corrections Branch Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT FOR PTO MISTAKE (37 CFR 1.322(a))

- 1. Attached, in duplicate, is Form PTO/SB/44, with at least one copy being suitable for printing.
- 2. The exact page and line number where the errors are shown correctly in the application file are:

Grimsley et al. reference is correctly presented on the Form 1449 submitted March 26, 1998, Sheet 1 of 2, Reference A64. In the issued patent, line 3 of the reference should read "217" rather than "21.7". A copy is attached for the convenience of the office.

The Claim 4 amendment is described correctly on page 2, under "Listing of Claims" in the Amendment filed July 8, 2004. The Amendment was acknowledged and accepted by Examiner as indicated in the Notice of Allowability mailed August 18, 2004. In the issued patent, column 26, line 22, the word "make" should read "maize", column 26, line 24, the word "PHJ9" should read "PHJ90", and column 26, line 29, there should be a comma after the word *Agrobacterium*". Copies of both documents are attached for the convenience of the office.

Patent No. 6,815,578 B1 Issued 11/23/2004 Attorney Docket No. 0448D

3. Please send the Certificate to:

Name

Kim M. Hagemann

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Respectfully submitted,

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- 2) Amendment (5 Pages)

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	NSMITTAL		Filing Date	11/03/1997
r	FORM		First Named Inventor	Zuo-Yu Zhao
(to be used for all co	orrespondence after initial	l filing)	Art Unit	1638
			Examiner Name	Fox, David T.
Total Number of Pages in This Submission 6			Attorney Docket Number	0448D
		ENCLO	SURES (check all that apply)	
Fee Transmittal F	om	Drawing		After Allowance Communication to Technology Center (TC)
Fee Attached	;	Licensi	ing-related Papers	Appeal Communication to Board of Appeals and Interferences
Amendment / Rep	oly	Petition	ı	Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
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Affidavits/decl	laration(s)		of Attorney, Revocation e of Correspondence Address	Status Letter
Extension of Time	⊋ Request	Termina	al Disclaimer	Other Enclosure(s) (please identify below):
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Certified Copy of I	Priority	Remar	ks	JUL 0 9 2004
Response to Miss Incomplete Applic				402 0 0 -
Response to Missing Parts under 37 CFR 1.52 or 1.53				
	SIGNAT	URE OF A	APPLICANT, ATTORNEY, O	R AGENT
Firm or Individual name Kim M. Hagemann				
Signature	K.M.	X/an		
Date	July 8, 2004	V V		
CERTIFICATE OF TRANSMISSION/MAILING				
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Date

July 8, 2004

Typed or printed name

Signature

Kim M. Hagemann



Application. No.

08/963,096

Confirmation No. 9667

Applicant

Zuo-Yu Zhao

Filed

11/03/1997

TC/A.U.

1638

Examiner

Fox, David T.

DOCKETED

JUL 0 9 2004

Docket No.

0448D

Customer No.

27310

Title

Methods for Agrobacterium-Mediated Transformation

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

AMENDMENT

In response to the Office Action of April 8, 2004, please amend the aboveidentified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 4 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-89. (Cancelled)

- 90. (Currently Amended) A stably transformed <u>PHN46 or PHJ90</u> inbred maize plant wherein said <u>PHN46 or PHJ90</u> inbred maize plant has been transformed by contacting an immature embryo with *Agrobacterium* comprising a nucleic acid of interest, and wherein the inbred maize plant is an inbred line other than A188.
- 91. (Previously Presented) A transgenic seed produced by the plant of claim 90.
- 92. (Currently Amended) A transformed PHN46 or PHJ90 maize cell produced by a method comprising the steps of: a) contacting at least one immature embryo from a PHN46 or PHJ90 maize plant with Agrobacterium capable of transferring at least one gene to the embryo; b) co-cultivating the embryo with Agrobacterium; c) culturing the embryo in a medium comprising N6 salts, an antibiotic at concentrations capable of inhibiting the growth of Agrobacterium, and a selective agent to select for embryos expressing the gene.

93-94. (Cancelled)

Serial No. 08/963,096 TC/A.U. 1638

95. (Currently Amended) A transformed PHN46 or PHJ90 maize cell produced by a method comprising the steps of: a) contacting at least one immature embryo from a PHN46 or PHJ90 maize plant with Agrobacterium capable of transferring at least one gene to the embryo; b) co-cultivating the embryo with Agrobacterium; c) culturing the embryo in a medium comprising salts other than MS salts, an antibiotic at concentrations capable of inhibiting the growth of Agrobacterium, and a selective agent to select for embryos expressing the gene.

96-97. (Cancelled)

REMARKS/ARGUMENTS

The Examiner rejects claims 94 and 97 under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention and for the inclusion of new matter.

Applicants respectfully disagree with the Examiner's new matter rejection but have cancelled Claims 94 and 97 in order to expedite prosecution.

The Examiner rejects claims 90-93 and 95-96 under 35 U.S.C. 112, first paragraph, "because the specification, while being enabling for claims limited to Agrobacterium-mediated transformed maize inbreds PHJ90, PHN46, and PHP28(38) prepared by the disclosed method, does not reasonably provide enablement for claims broadly drawn to any Agrobacterium-mediated transformed maize inbred which is not A188." The Examiner invited the Applicant to submit a declaration to support the assertion that the three inbreds belong to different heterotic groups, and to explain why an assignment to different heterotic groups is an indication of genetic diversity.

Applicants traverse but have amended Claims 90, 92 and 95; and cancelled Claims 93 and 96 in order to expedite prosecution.

The Examiner rejects claims 90-93 and 95-96 under 35 U.S.C. 102(b) as being anticipated by Goldman et al. (U.S. Patent 5,177,010). The Examiner rejects claims 90-93 and 95-96 under 35 U.S.C. 102(e) as being anticipated by Goldman et al. (U.S. Patent 6,020,539). The Examiner maintains that the particular explant used for inoculation with Agrobacterium, in order to make the claimed Agrobacterium-transformed maize plants (which would inherently contain at least one 25 base-pair T-DNA border sequence), would not confer a patentable distinction to the resultant Agrobacterium-transformed maize plant.

Applicants traverse but have amended Claims 90, 92 and 93 and cancelled Claims 93 and 96 in order to expedite prosecution.

The Examiner rejects claims 92 and 95 under 35 U.S.C. 102(a) as anticipated by Ishida et al. (Nature Biotech. 14:745-750, 1996).

Serial No. 08/963,096 TC/A.U. 1638

Applicants traverse the rejection but have amended the claims in order to expedite prosecution.

The Examiner rejects claims 92 and 95 under 35 U.S.C. 102(b) as being anticipated by Gould et al.

Applicants traverse the rejection but have amended the claims in order to expedite prosecution.

The Examiner rejects claims 90, 92-93 and 95-96 under 35 U.S.C. 102(b) as being anticipated by and under 35 U.S.C. 103(a) as being unpatentable over each of Schlappi et al., Grimsley et al. (1988), and Ritchie et al.

Applicants traverse the Examiner's rejection but have amended Claims 90, 92 and 95; and cancelled Claims 93 and 96 in order to expedite prosecution.

CONCLUSION

Applicants have amended claims 90, 92 and 95. Applicants have cancelled claims 93, 94, 96 and 97. Claims 90-92, and 95 now remain. In light of the foregoing amendments allowance of all remaining claims is respectfully requested.

Respectfully submitted,

Kim M. Hagemann Agent for Applicants Registration No. 52,982

PIONEER HI-BRED INTERNATIONAL, INC. Corporate Intellectual Property 7100 N.W. 62nd Avenue P.O. Box 1000 Johnston, Iowa 50131-1000 Phone: (515) 248-4878

Facsimile: (515) 334-6883

13 2014 E	Application No.	Applicant(s)
I THE STATE OF THE	08/963,096	ZHAO ET AL.
Notice of Allowability	Examiner	Art Unit
STEAT & TRAUGHA	David T. Fox	1638
The MAILING DATE of this communication appearable claims being allowable, PROSECUTION ON THE MERITS IS (herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGOR (The Office or upon petition by the applicant. See 37 CFR 1.313 1. This communication is responsive to papers filed 08 July 20	OR REMAINS) CLOSED in this a contract or other appropriate communicating GHTS. This application is subject and MPEP 1308.	application. If not included ion will be mailed in due course. THIS
2. The allowed claim(s) is/are 90-92 and 95, renumbered as 1		
3. The drawings filed on 21 January 2003 are accepted by the	e Examiner.	DOCKETED
4. ☐ Acknowledgment is made of a claim for foreign priority under a) ☐ All b) ☐ Some* c) ☐ None of the:		DOCKETED AUG 1 9 2004
Certified copies of the priority documents have		
2. Certified copies of the priority documents have		
3. Copies of the certified copies of the priority doc	cuments have been received in th	is national stage application from the
International Bureau (PCT Rule 17.2(a)).		
* Certified copies not received:		
Applicant has THREE MONTHS FROM THE "MAILING DATE" of noted below. Failure to timely comply will result in ABANDONMI THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.		ly complying with the requirements
 A SUBSTITUTE OATH OR DECLARATION must be submit INFORMAL PATENT APPLICATION (PTO-152) which give 		
6. CORRECTED DRAWINGS (as "replacement sheets") must	t be submitted.	
(a) ☐ including changes required by the Notice of Draftsperso		O-948) attached
1) hereto or 2) to Paper No./Mail Date	• ,	•
(b) ☐ including changes required by the attached Examiner's Paper No./Mail Date	Amendment / Comment or in the	Office action of
Identifying indicia such as the application number (see 37 CFR 1.8 each sheet. Replacement sheet(s) should be labeled as such in the		
 DEPOSIT OF and/or INFORMATION about the depos attached Examiner's comment regarding REQUIREMENT F 		
Attachment(s)	_	
1. Notice of References Cited (PTO-892)	<u>=</u>	Patent Application (PTO-152)
2. Notice of Draftperson's Patent Drawing Review (PTO-948)	6. ☐ Interview Summa Paper No./Mail D	
 Information Disclosure Statements (PTO-1449 or PTO/SB/08 Paper No./Mail Date 10/1/99 	3), 7. X Examiner's Amen	
4. Examiner's Comment Regarding Requirement for Deposit	8. Examiner's Stater	ment of Reasons for Allowance
of Biological Material	9. Other	
U.S. Patent and Trademark Office		

Art Unit: 1638

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Page 2

IN THE SPECIFICATION:

On page 7, line 7, "Fig. 1 provides" was replaced with ---Figs. 1A-1C provide---.

On the following pages of the specification, "PHP38" was replaced with ---

PHP28---:

on page 25, line 23; page 42, lines 13 and 22; page 43, Table 9, line 13; and page 44, Table 10, line 13.

Authorization for this examiner's amendment was given in a telephone interview with Kim M. Hagemann on 09 August 2004.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David T. Fox whose telephone number is (571) 272-0795. The examiner can normally be reached on Monday through Friday from 10:30AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached on (571) 272-0804. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

August 10, 2004

DAVID T. FOX
PRIMARY EXAMINER

GROUP 180-1638

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(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO: 6,822,144 B1
DATED: November 23, 2004

INVENTOR(S): Zuo-Yu Zhao, Weining Gu, Tishu Cai and Dorothy A. Pierce

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Page 2, Item [56], References Cited, OTHER PULICATIONS, Column 2, Grimsley et al. reference should read as follows:

-- Grimsley et al., "DNA transfer to *Agrobacterium* to *Zea mays* or *Brassica* by agroinfection is dependent on bacterial virulence functions", *Mol Gen Genet*, 217:309-316 (1989). --

Column 26, Claim 4, should read as follows:

-- A transformed PHN46 or PHJ90 maize cell produced by a method comprising the steps of: a) contacting at least one immature embryo from a PHN46 or PHJ90 maize plant with *Agrobacterium* capable of transferring at least one gene to the embryo; b) co-cultivating the embryo with *Agrobacterium*; c) culturing the embryo in a medium comprising salts other than MS salts, an antibiotic at concentrations capable of inhibiting the growth of *Abrobacterium*, and a selective agent to select for embryos expressing the gene. --

MAILING ADDRESS OF SENDER:

Pioneer Hi-Bred International, Inc. 7100 N.W. 62nd Ave. P.O. Box 1000 Johnston, Iowa 50131-1000

PATENT NO. 6,822,144 B1

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Page 1 of 1

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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		Kim M. Hagema	UN			
		Typed or printed name of person signing Certificate				
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- 3) Copy of Amendment Documents Filed 07-08-2004 / 10 Pages (1 copy)
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